Maryland Historical Trust

Maryland Inventory of Historic Properties number: CARR-1471

Name: ~~FRED~~ 6038/ MD 496 over Big Pipe Creek

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended _____ Eligibility Not Recommended __X____

Criteria: ____A ____B ____C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: _Anne E. Bruder_____ Date: __3 April 2001____

Reviewer, NR Program: __Peter E. Kurtze_____ Date: __3 April 2001____

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. CARR-1471

SHA Bridge No. 6038 Bridge name MD 496 over Big Pipe Creek

LOCATION:
Street/Road name and number [facility carried] MD 496

City/town Bachman Mills Vicinity X

County Carroll

This bridge projects over: Road____ Railway_____ Water X_____ Land ____

Ownership: State X_____ County _____ Municipal _____ Other _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ No X_____
National Register-listed district ____ National Register-determined-eligible district __
Locally-designated district _____ Other _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ Truss -Covered ___ Trestle ____ Timber-And-Concrete ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge _____:
Swing _____ Bascule Single Leaf __ Bascule Multiple Leaf _____
Vertical Lift _____ Retractile_____ Pontoon _____

Metal Girder_____:
Rolled Girder _____ Rolled Girder Concrete Encased _____
Plate Girder _____ Plate Girder Concrete Encased _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X:
Concrete Arch_____ Concrete Slab X Concrete Beam ____ Rigid Frame _____
Other _____ Type Name _____

DESCRIPTION:

Setting: Urban _____ **Small town** _____ **Rural** _____X_____

Describe Setting:

Bridge No. 6038 carries MD 496 over Big Pipe Creek in Carroll County. Route 496 runs east-west, and Big Pipe Creek flows under the bridge. The structure is located in a rural area with working farms, residences, and open fields in the immediate vicinity. Among these structures are four State nominated properties. The Christian Bauer House (MHT No. CARR-1151), The Frederick Bachman House (MHT No. CARR-1152), the Bachman Tenant House (MHT No. CARR-1153) and the Bachman's Mill site (MHT No. CARR-1154) are a part of an historic farm complex on the north side of MD 496 along Big Pipe Creek. Bridge No. 6038 is not included as a contributing resource in any of the listings.

Describe Superstructure and Substructure:

Bridge No. 6038 was built in 1932 following the SHA Detail Sheets from 1930 for a standard 20' concrete slab. It is a two span, two-lane concrete slab bridge. This structure has two 20'-0" spans and a clear roadway width of 27'. It has a total length of 42'. The superstructure comprises a concrete slab with a bituminous riding surface and pierced concrete parapets. The parapets have an articulated coping stone, and the end blocks are scored. According to a previous survey, these parapets are integral with the slab. The substructure consists of concrete abutments, flared wingwalls, and a steel pile bent. The wingwalls are decorated with molded chamfering to give the appearance of natural stone. There are W-beam guardrails at both approaches, and the rails are attached to the parapets.

In 1994 the condition of the bridge was described as fair to satisfactory. The slab has an area along the joint over the bent has spalled with rusted rebar exposed. This is caused by slab rotation which has increased to 1¼" up from 1" on the last inspection. Both parapets have moderate to heavy scaling with aggregate exposed and are spalled with rusted rebar exposed on both faces over the bent because of slab rotation. Some balusters are spalled with rusted rebar exposed. The northeast and southeast wingwalls have large areas at the top repaired with concrete where sections were fractured due to slab rotation. The steel channels of the bent cap have moderate to heavy rust scaling with some minor pitting and section loss.

Discuss Major Alterations:

The original concrete pier was replaced in 1977 with a steel pile bent. The 1994 inspection report states repairs have been made to the northeast and southeast wingwalls and the slab. In addition, the east abutment has been patched at the top along the full length of the slab joint. It is not noted when these repairs were made. There are no records available which describe additional repairs/alterations made to this bridge, when they were undertaken, or the extent thereof.

HISTORY:

WHEN was the bridge built (actual date or date range) 1932

This date is: Actual X **Estimated** _____

Source of date: Plaque _____ **Design plans** ____ **County bridge files/inspection form** ____

Other (specify) Maryland State Highway Administration bridge files

WHY was the bridge built?

Statewide road improvement programs and local transportation needs

WHO was the designer?
State Roads Commission

WHO was the builder?
State Roads Commission

WHY was the bridge altered?
Extension of bridge's life and safety issues

WAS this bridge built as part of an organized bridge-building campaign? Yes. This bridge was constructed as a part of post World War I improvements to secondary roads in Maryland.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

This bridge does not have National Register significance.

Was the bridge constructed in response to significant events in Maryland or local history?
Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war-related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920 to 1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund [with an equal sum from the counties] the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had become inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930s. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction.

In the early years, there was a need to replace the numerous single lane timber bridges. Walter Wilson Crosby, Chief Engineer stated in 1906, "The general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do way with the further expense of the maintenance of expensive and dangerous wooden structures". Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

The creation of standard plans and a description of their use was first announced in the 1912-15 Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

> During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

The 1924 standard plans remained in effect until 1930, when the roadway width for all standard plan bridges was increased to 27 feet in order to accommodate the increasing demands of automobile and truck traffic (State Roads Commission 1930). The range of span lengths remained the same, but there were some changes designed to increase load bearing capacities. The reinforcing bars were increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?
Unknown.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?
No. This bridge is not located in a town which may be eligible for historic designation.

Is the bridge a significant example of its type?
No. Bridge No. 6038 is not an exceptional example of its type. The character defining elements are either in a deteriorated state or not present in their original form.

Does the bridge retain integrity of important elements described in Context Addendum?
No. This structure has not retained the integrity of its design due to the loss of character defining elements, and its material integrity has been compromised due to its deteriorated condition.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
No. This bridge is not a significant example of work completed by the State Roads Commission.

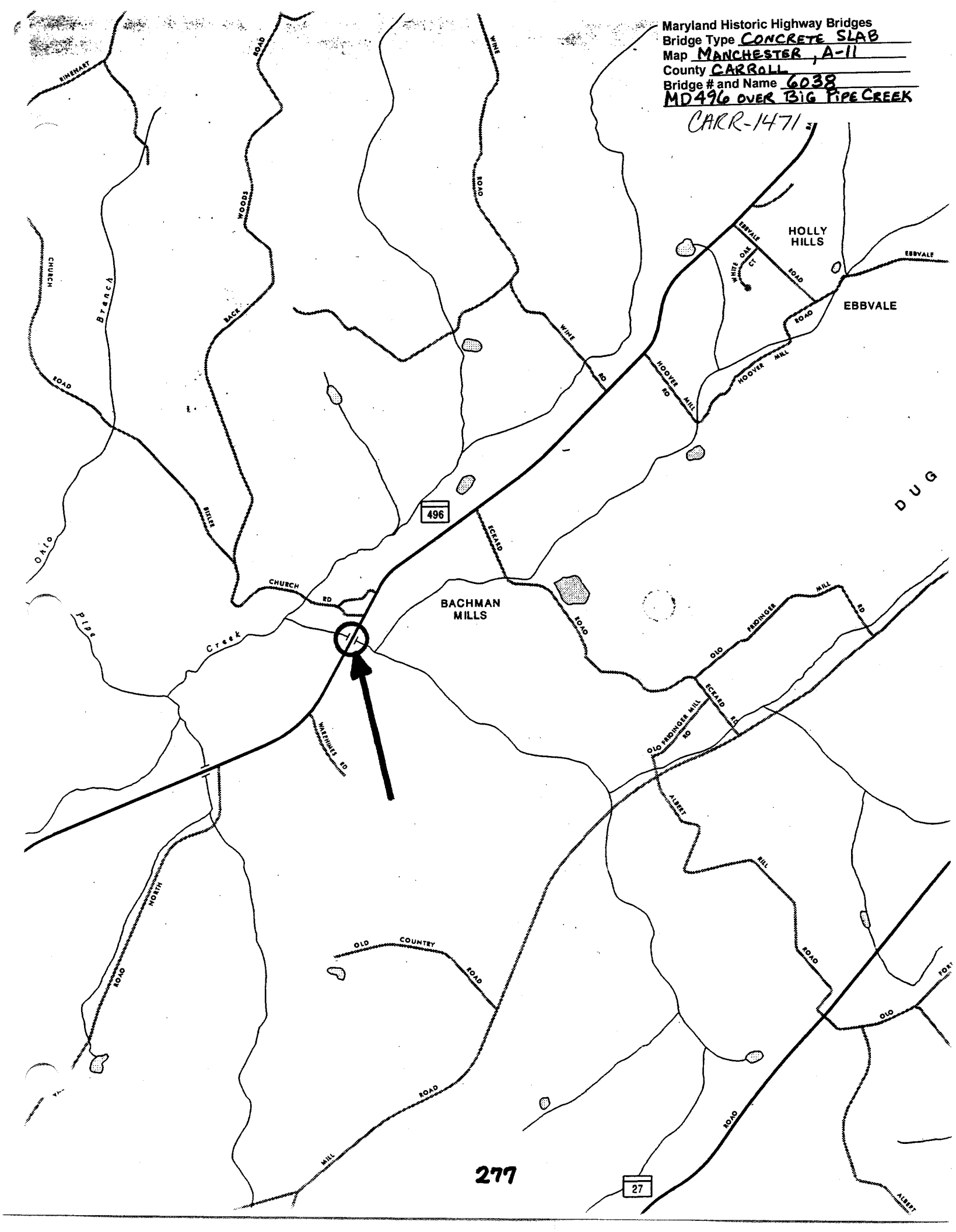
Should the bridge be given further study before an evaluation of its significance is made?
No further evaluation is necessary to determine National Register significance. Although it reflects the state's post World War I expansion of secondary road systems, it is not an exceptional example of its type. However, additional research concerning the history of this bridge and its relationship to the surrounding landscape may be useful in providing a more complete picture of the bridge's background.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X
Other (list):

SURVEYOR:

Date bridge recorded August 1995
Name of surveyor Leo Hirrell
Organization/Address P.A.C. Spero & Company; 40 West Chesapeake Avenue, Suite 412; Baltimore, Maryland 21204
Phone number 410-296-1635 **FAX number** 410-296-1670


Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map MANCHESTER, A-11
County CARROLL
Bridge # and Name 6038
MD496 OVER BIG PIPE CREEK
CARR-1471
HOLLY HILLS
EBBVALE
BACHMAN MILLS
496
27
277

Inventory # CARR-1471
6038
Name Md. Rt. 496 over Big Pipe Creek
County/State Carroll Co. Md.
Name of Photographer D. Diehl
Date 2/95

Location of Negative SHA

Description west approach looking
northeast

Number 1 ~~8~~ of ~~35~~ 4

Inventory # CARR-1471
6038
Name Md. Rt. 496 over Big Pipe Creek
County/State Carroll Co. Md.
Name of Photographer D. Diehl
Date 2/95

Location of Negative SHA

Description east approach looking
southwest

Number 2 ~~1~~ of ~~33~~ 4

Inventory # CARR-1471
6038
Name Md. Rt. 496 over Big Pipe Creek
County/State Carroll Co. Md.
Name of Photographer D. Diehl
Date 2/95

Location of Negative SHA

Description south elevation looking northwest

Number ~~10~~ 3 of ~~33~~ 4

Inventory # CARR-1471

6038

Name Md. Rt. 496 over Big Pipe Creek

County/State Carroll Co. Md.

Name of Photographer D. Diehl

Date 2/95

Location of Negative SHA

Description north elevation looking southwest

Number 4 11 of ~~33~~ 4